

AMERICAN EDUCATIONAL MONTHLY.

VOL. III.

SEPTEMBER, 1866

No. 9.

LIBERALLY EDUCATED.

WHO? One whom we all know; the minister of the country parish of —; a very good but insufferably dull man, unscholarly, ungenial; —, of whom it was evident, while he was in college, that he was making a great mistake in trying to fit himself for any one of the learned professions; and so it has since proved. He was kept plodding at his books because he was poor and because he was good; and now he takes his place among "liberally educated" men. That debauchee, hurrying on in his swift career of dissipation, strewing his way with curses, —, a disgrace to himself and to society. Don't you and I remember how idle, vicious, and profane he was in college? But he was allowed to stay because he was rich—and rich men's sons, you know, must be expected to sow their wild oats—and now he is one of our "liberally educated" men. That dapper gentleman, so neatly dressed, just going round the corner. He was the very weakest scholar in a very weak class; he never passed a college examination with any credit to himself; for if he ever answered a question correctly, it was all by chance or through the pitying charity of some fellow-student who sat near and prompted him; but now his lying diploma tells of him as a "liberally educated" man. He has even had the boldness, with his small stock of knowledge, to announce himself a teacher and open a school; he pleases fond parents of good families with bland words; they are so glad to have their children in the care of such a gentleman; they haven't yet discovered the emptiness of his pretensions!

These illustrations are not overdrawn. There is not a college in the land but must enumerate many such cases among its graduates—and so many, that to be "liberally educated" in the popular sense of the term, while it may mean a great deal, has come to mean necessarily but very little. What should it mean to be "liberally educated?" Not, indeed, to have finished one's education, for this is the work of a lifetime; but, at least, to have thoroughly mastered the elements of knowledge; to have attended carefully to the study of language, mathematics, and the natural sciences; to have gone, at least, as far in one's investigations into other subjects as is denoted by the studies of a college course; and thus to be enabled to advance with the firm vigor of manhood into new and wider

fields of learning. We can gladly point to many who have in this way faithfully improved all the opportunities in their power ; and they exemplify what it should be to have received a "liberal education." But from looking at the *maximum* let us turn to the *minimum*, and ask, What is it to be "liberally educated?" that is, What is the least that is necessary? To have in some way got through the studies of the college curriculum ; perhaps knowing so little at the close, as to boast, as of some great achievement, of being able to decline *musa*, or to give the definition of a simple equation ; thus to get the name of having done what one has totally failed of doing, and to flourish the lie before the world with titles of degrees. How many college graduates are there who, through dissipation, idleness, or incapacity, very plainly manifested while in college, are thus pretending to be what they are not ! You may say that every one knows they are pretenders ; but this is not always true. Do they not go among strangers and build up success on false foundations ? Have not teachers, physicians, lawyers many times gone to the West, and with the reputation of being graduates of our higher institutions at the East, imposed upon communities, and gained a prosperity which has justly provoked surprise and indignation among those who knew them here ? If the diploma of an institution of learning be of any value, it surely ought to be a criterion for distinguishing between the educated and the ignorant. Whether or not it is, has come to be almost a superfluous question.

Though it is commonly regarded as far easier to detect faults than to suggest wise remedies, it seems to us that the way of reform in this important matter is comparatively plain. And let our words be as plain as the method we would propose. This is, as many may have anticipated, that our colleges in general set up a higher standard of mental and moral discipline ; that they exact conformity thereto, and give no alternative but dismissal. Are our words, "a higher standard," too indefinite ? Well, then, what we would require would be a more thorough understanding of the studies of the course, not of text-books only, but of subjects ; whoever could not understand, should be kindly dismissed, because of incapacity ; whoever would not understand, should be unconditionally thrown out, for laziness. And as the dead-weights of stupidity and idleness are nothing compared with the poison of immorality, so, too, there should be a removal of all, high or low, who were known to be dissipated or profane.

Some may say that all this is too severe ; but to such we reply : Where shall we draw the dividing line ? You cannot deny that there are many even in our best colleges who do not deserve to stay there a day ; whose blunders are making them a constant laughingstock, or whose dissoluteness is bringing burning shame upon themselves and all connected with them ; and who ought to be removed, if these ought not ? You may meet persons of a philanthropic turn of mind, who will argue that a college ought to keep and graduate all its very poor students—poor, intellectually,

we mean—on the ground that in this democratic age, with a government whose wise administration depends much on the intelligence of the people, every thing should be done to distribute as much knowledge as possible among the greatest number. This touches a broad question, whose merits we cannot here examine? but, owning the general truth of what we have just said, certainly if the honors and degrees of an institution of learning are to be conferred upon all alike, it becomes us to consider whether we are not educating the superior minds down to a lower level, rather than the masses up to a higher. Is not too much encouragement thus held out to those of little intellect to think that colleges and universities were made expressly for them? and are they not thus inspired too much with a conceit of their own knowledge, while the few really superior minds are trammelled and held back? Let the masses be instructed by all means, as far as their capacities will allow; but let there be richer harvests and higher honors ready for those who can take them. Let there be a wide difference made between those who are in truth thoroughly and liberally educated, and those who have gained at best but a smattering of knowledge. And, to make our hints practical, we would say that if there cannot be higher institutions—*really* higher, and not *nominally* nor *technically*—for the training of those who are to be the leading minds of each next generation, the colleges might at least refuse degrees to scores of their poorer students, who at the same time might give proof of sufficient ability to warrant their being encouraged to study. If truly educated men can think that there is no reform needed in this matter, we will retract all we have said—will call colleges schools, and schools “collegiate institutes;” and all teachers of whatever rank or grade, to the very lowest Dominic Sampson, we will join with the crowd in dubbing “Professors.” Henceforth, though, let no one name a distinction between higher education and lower, for mediocrity is to be the standard. But we do not seriously fear any such necessity as this; for we are confident that we have the sympathies of a very large number, in a desire for greater thoroughness in our colleges. And if the favor with which some would look upon dull students be misplaced, much more is that a mistaken charity which would put in the weak plea for those who are immoral and dissipated, that they should be allowed to remain, because they may, perhaps, by the force of good influences around them, be brought to a different life, and become as earnest for the good and the true as they have been for their opposites. This is dangerous ground; yet, we suppose, it must be the ground taken by many of our college faculties; for otherwise, why do they suffer those students to stay who are notorious among their fellows for dissipation, and with whose moral character it must be that they are themselves acquainted? Certainly, haggard looks at the morning recitation may tell of midnight revels; the glassy, vacant stare of those inflamed eyes can tell no lie; but how often, and in what college, do the proper authorities think it their

duty to investigate such cases as these ; or, where there is investigation, what does it amount to more than mere admonition ? Some violation of good order or direct insult to college government may receive due punishment ; while every-day habits of dissipation are too often overlooked, and moral character is neglected in the hope that some day it may, through right influences, be made better. We have meant to be truthful in what we have been saying. But sift our words from all possible exaggeration ; and then, when you consider how much of truth there is left, can you wonder why it is that so many parents cannot consent to place their sons in the midst of such temptation, and so forego for them the important advantages of a college course ?

But how came so many unworthy students in so many of our colleges ? Have they become what they are since they went there ? By no means all of them. If you could know the truth, it would be that too many were before confirmed in habits of idleness and vice ; and certainly that very many had never received any adequate mental preparation, and so ought never to have been admitted. We must go further back, then, to find a chief source of the evil—to the moral training of homes, and the mental and moral training of schools. Well, are the colleges to blame for this ? Not directly ; but indirectly, just as far as they foster such a state of things by granting easy entrance to those of whose morals they are suspicious, and whose knowledge of the subjects required is so superficial as to be hardly worthy the name of knowledge. If colleges were more strict in enforcing their requirements for admission, the schools would be more strict ; wherever there were ability on the part of teachers, they would see to it that those whom they sent to college did not bring double disgrace on themselves and on the schools, by being rejected ; and as for the great number of incompetent instructors who are at present pretending to fit boys for college, their services would be no longer in demand, and thorough schools would spring up in the place of shams. We are well aware that we have already said enough that is distasteful to some in this article, without going at length into the matter of the ignorance of the teachers ; we only state it to be our firm belief that there is a sad incapacity on the part of many of the teachers of youth in academies and preparatory schools. Some know enough, but have not the happy gift of communicating knowledge, so that to the learner it is no better than a dry and juiceless crust to his taste : others, and more frequently, have not themselves the knowledge they profess ; so, of course, what can they communicate ? Their words, however many, are not only useless but positively injurious.

We think it plain, then, that the schools and the colleges, as parts of a system of education, react upon each other ; that if the colleges are to be made better, the schools must send them a supply of more thoroughly prepared students ; and that if we look to the schools to raise their standard, it must be, in great measure, because the colleges have advanced theirs.

and so have obliged *them* to do so. We know that in this we are stating nothing new, but something, at least, apparently forgotten. How does any college deserve the name of a higher institution of learning, whose officers are so careful for the temporary prosperity of numbers, as to care more for the extent of its catalogue than for the thoroughness of its discipline? Still, keeping the higher motives in view, let any college be as thorough and uncompromising as we have been recommending, and though for a while its classes might be small, would it not before many years find that, even in point of numbers, it was achieving the surest success?

These, or considerations like these, which we have been presenting, have very likely occurred to many of late, in view of our highest educational interests. Of course, in so brief a paper as this we must omit many things of importance. We had meant to say a few words of the detestable practice of "hazing," so called, and the disgraceful fights between upper and lower classes: as in our two most celebrated colleges these things seem to be permitted as necessary concomitants of a liberal education. For we are greatly mistaken if the Faculty of Harvard have yet taken any efficient action to prevent this "hazing," with all its barbarities; and certainly it is no long time since there happened at Yale a most disgraceful fight between the sophomore and freshman classes. Such a state of things in our college life is a shame to our boasted civilization. Nor need it exist, if there were that vigor in all college government which there ought to be. We had meant, too, to urge the need of a course of study extending at least through five or six years, and somewhat more comprehensive than that in the academical department of the most of our colleges. As it is now, too much work is crowded into too little time; not, indeed, taking as a standard the actual degree of thoroughness among most college students, but that which ought to exist. But this and many other points we must leave undiscussed. If we may have only attracted attention to so important a subject, we shall be content

AN ERROR OF THE TIMES.—Dr. John E. Tyler, of the McLean Asylum for the Insane, in a recent report, alludes to the increasing number of persons who are carried to the asylum owing to overworked brains. He urges upon all the necessity of taking proper recreation, of being regular at meals, and asserts that "over-workers deceive themselves by the belief that they can bear more than others, or that they can bear what they are doing because they have so long borne it without breaking down." The overworked class which have come under the doctor's particular notice are merchants, professional men, and overtasked female scholars and teachers in our public schools. A few dollars less, a few cases passed over to beginners, or a little less study, would have kept many who are now inmates of asylums happy members of society.

THE PUBLIC LIBRARY THE COMPLEMENT OF THE PUBLIC SCHOOL.*

THE public library is the natural complement of the common-schools. The importance of maintaining these is universally acknowledged in the Free States, and we believe there is no ground of complaint against those of this city—at least none to which those of the most carefully provided cities are not also open. That intelligence lies at the foundation of free institutions is universally recognized, and the free-schools are the testimony the people bear to their faith in the doctrine. The best minds of the community are busy in devising how these nurseries of the future can be made to answer their purpose the most effectually; and constant advancement is making in the application of the science of mind to the art of its best development. And this should be so, for in the schools is contained the commonwealth in the very act of growth, and the inclining of the tree depends, so Pope says, on the bending the twig receives in that tender stage of existence. But when the common-schools have been brought to the highest degree of perfection possible to human institutions, we hold that society has not even then done its whole duty to the rising and the risen generation. The State should not forego its charge of its youth when the doors of the school-house close behind the grown-up young man and woman. The school, at best, can only teach the use of tools, and indicate whereabouts the material lies which is to be worked up for the nourishment, the development, and the adornment of the mind. Many young persons, of either sex, soon lose all taste for the studies which have occupied their pupilage, if they do not entirely forget them. The battle of life is too fierce a conflict to most of them to make it possible for them to go far out of their way, or to expend much of the sinews of their warfare on the continuing of their education. If they can make the trial, they find it hard to get the books and apparatus necessary for further self-cultivation.

For Gibbon never said a truer thing, than that every man who makes any mark in the world has had two educations—one from his teacher, and the other, and the more important, from himself. Now, surely, the system of public education on which we so justly pride ourselves, is not complete until the public provide the free means of carrying on this self-education after that of the school is finished. Facilities and means for doing this should be brought within the reach of all, even of the poorest, and of these the most of all. The fountains of knowledge should be opened to all, that all may come and draw the waters of moral and intellectual life freely without money and without price. All comers can not become

* *The Nation*, June 26th, 1866.

learned men and women, but they may all become well-informed and refined ones; and the public should give them all the opportunity. The prosperity and happiness of every community depend on the virtue, intelligence, and good manners of the individuals that make it up. Whatever promotes these three conditions adds to the material wealth as well as to the harmless pleasure of the body politic; and nothing can promote them more effectually than the providing of useful and entertaining occupation for the leisure of the busy classes. Merely teaching the young citizens to read, though a great boon undoubtedly, is a very imperfect one unless they can have access to books worth reading. It is inviting them to a Barmecide's feast, where there is nothing to eat. Or it is like the privileges that the ladies are allowed at English public dinners—that of sitting hungrily in the gallery and seeing the lords of creation eating of the fat and drinking of the sweets below.

And the expense need not be so great as to deter the humblest community from thus completing its apparatus for the teaching of its children. A library containing all the standard English authors, with duplicates and triplicates of those most in demand, could be had for an investment of not more than two or three thousand dollars, and a very moderate annual appropriation would suffice to furnish it with all the new books worth adding to it. Of course, large towns and great cities would not be content with this modicum of mental food, but would provide for the necessities of the student as well as for those of the common reader. We are confident that no better investment could be made for the best interests of society, material as well as moral and intellectual, than such an appropriation of public money. The returns would soon begin to be perceived in the improvement of the general intelligence and morality. No better or more effectual antidote could be provided for the bane of bar-rooms, billiard saloons, and gambling-houses, than the cultivation of a literary taste and the love for books which a free access to an ample library would furnish. To the allurements of pleasure and the attractions of vice the best counter-charm is that supplied by the magic of reading. The devil, we all know, is always readiest with his temptations in our idle hours, and the most potent exorcism against him, to drown his whispers, is to be found in the tones of the enchanters who transport us away from the ignorant present to the past world or to the fair fields of the imagination. Bell, book, and candle used to be the appointed means for putting him to an ignominious flight; and the two last will be found sufficient for the purpose, even now, if they be used aright.

MANY run around after felicity, like an absent-minded man hunting for his hat while it is on his head.

ISOMETRIC DRAWING.

LESSON II.

Use of the Triangular Rulers.

WE will next consider the method of using the triangular rulers. The method by which parallel lines are drawn by the use of a straight ruler and one triangle is shown in Fig. 2. The line AK in that figure is supposed to have been drawn first, and the lines above it were drawn in succession, by the method referred to, which is as follows, viz. : The triangular ruler is placed with its longest side applied to the line AK, and held in place firmly ; then the long ruler is made to bear carefully against the short side of the triangle. Now holding the long ruler with the left hand, the triangle may be made to slide along the paper with the right hand, keeping it against the long ruler. All lines drawn by the longest side will be parallel to AK. At the moment of drawing a line, the left hand must hold both triangle and ruler firmly in place.

Now, if you are provided with triangular rulers of the right form, we are prepared to draw the cube by the method to be employed in the subsequent lessons.

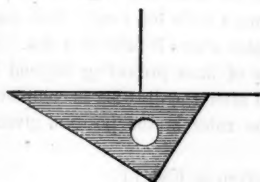
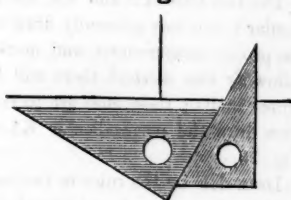
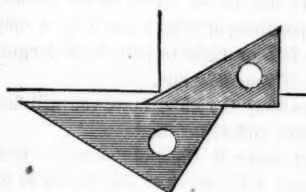
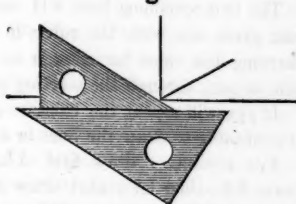
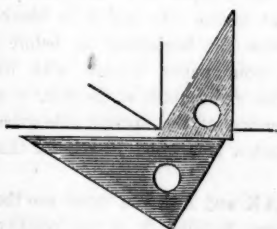
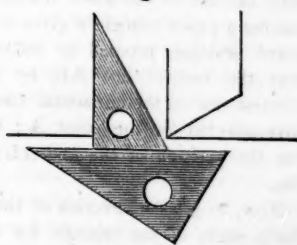
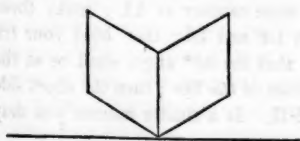
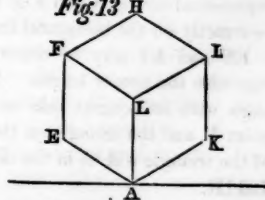
First, draw a line parallel to the bottom of the page, and at that place upon your paper where you propose to have the lowest point of your picture. Then by aid of your triangle draw a perpendicular to this line, at the proper place to represent the nearest corner of the cube : this is the line AL in Fig. 5 or Fig. 13. Draw this perpendicular the proper length : one inch is a convenient length for a drawing upon paper.

Now place your larger triangle as in Fig. 6, with its longest side applied to the horizontal line. Hold it with the left hand and bring the smaller triangle firmly against the shortest side, as in Fig. 7.

Hold the smaller triangle steadily in place with the right hand and slide the larger triangle down, keeping it against the smaller one, till the longest side of the larger triangle is about a quarter of an inch below the horizontal line ; this position is represented in Fig. 7.

The larger ruler is to be held in this position with the fingers of your left hand, while the remaining lines are being drawn. It will probably slip frequently until you get used to holding it while you are drawing ; if it slips in the least, you must replace it by this same method, starting from the line as in Fig. 6.

We will now draw the line marked AK in the finished drawing. Place the small ruler above the larger, as in Fig. 8, sliding it along carefully till the edge just comes to the bottom of the perpendicular, or rather till there is just room for your pencil to draw by the edge of the ruler exactly to the end of the perpendicular. At the moment of using the pencil your left hand must hold both rulers in place.

Fig. 6*Fig. 7**Fig. 8**Fig. 9**Fig. 10**Fig. 11**Fig. 12**Fig. 13*

Now turn the smaller triangle over, and draw, in like manner, the line which inclines to the left; the position of the ruler is shown in Fig. 9; the line to be drawn is the line AE in Fig. 5.

The two lines AE and AK are to be of the same length as the perpendicular; you may generally draw such lines a little too long; then make the proper measurement, and mark the point where it falls by a dot. By following this method there will be ends of lines projecting beyond the proper limits; these ends are to be erased after the drawing is completed. Now draw the perpendicular KI with the ruler in the position given in Fig. 10.

Draw EF by the ruler in the position given in Fig. 11.

Draw from L to I and from L to F by following the plan represented in Fig. 8 and Fig. 9, except the ruler must be slid along till the longer side coincides with the top of the perpendicular instead of the bottom of it. The drawing now should be like Fig. 12.

The two remaining lines FH and HI are to be drawn by the method just given and with the rulers in the positions of Fig. 8 and Fig. 9, only carrying the ruler far enough to the left or right to permit the longest side to pass through the starting point of your new line.

If you will repeat the exercise of drawing the cube now, you will find it profitable to draw the lines in a slightly different order.

For instance: draw first AL, and make it the right length; then draw AK, then LI; next draw AE and LF; measure the distances on AE and AK; then draw EF and KI; and, finally, FH and IH.

To draw the cube upon the blackboard, you may, if you prefer, dispense with the use of the wood triangles and use a paper one. The rule for making a paper triangle is given in the first lesson. To use it in blackboard drawing, proceed as follows: Draw the horizontal as before; next the vertical line AL, by holding your paper triangle with its shortest side on the horizontal line, and the right angle at the point you have selected for the point A; the direction of the upright side gives you the position of the line AL: six inches is a good length for this line.

Now, to get the direction of the lines AK and AE, you must use the sharp angle of the triangle for a measure, holding it in the position represented in Fig. 8 and Fig. 9; only the lower side of the triangle will be exactly on the horizontal line; measure both lines.

EF and KI may be drawn in the same manner as AL; make these lines also the proper length. Now join LF and LI; then hold your triangle with its longest side on FL, so that the 60° angle shall be at the point F, and the triangle on the upper side of the line; then the short side of the triangle will lie in the direction FH. In a similar manner you may find IH.

A LETTER FROM SANTA CRUX, CALIFORNIA.

CALIFORNIA is a land of extremes. Here natural objects of every kind take on their most extraordinary types. As, for an example, trees. In general, this may be said to be a treeless country. Over a vast region here, there grow only scattered and remote trees—say not more than one to an acre, or much fewer. The most common species of tree is the “live-oak,” as it is called (*quercus agrifolia*). It is found scattered here and there, or rarely collected in groves, in every part of the State which I have yet visited. Sometimes it is a low, straggling shrub, as on the hills back of San Francisco. Again, it is a majestic tree, wide-spreading and lofty, as in Oakland; and, at times, as in the forests about Santa Cruz, it is tall and straight, with only summit branches. But everywhere its bark, foliage, and fruit are unmistakable—the picturesque, the shady, the useful. But vast regions are destitute of this or any other tree; not only the plains, but the hills and the mountains around the plains. This is one extreme. And when you *do find* a forest, it is a forest indeed! Not only am I astonished at the lofty grandeur of the forest trees, but at their density. I have not yet seen the “big trees” of Calaveras County, but I have seen the forests around Santa Cruz. Where these yet remain intact, I have seen acres, each sustaining, I suppose, not less than five hundred trees, averaging nine feet in diameter and one hundred feet in height, while some specimens are twenty feet in diameter and two hundred feet high! Such are the famous “redwoods” of California. They make excellent lumber, and are *durable* to a period yet unknown, as none of the present inhabitants have witnessed their decay in any situation. These redwood forests cover but a few of the mountain ranges here, although further north such forests are said to be vast in extent. Now what is the compensation for the nakedness of the plains and hills generally? Look on them and behold! A luxuriance of verdure, a gorgeousness and beauty of bloom such as no words can describe, much less exaggerate. For instance, the Salinas Plain, forty miles by twenty, extending eastward from Monterey. At a distance it looks painted and variegated as no parlor carpet can imitate. Here a patch of richest, glowing orange-color (*eschaltzia*), there of watery blue (*nemophila*), there a dash of sulphur yellow (an *orthocarpus*), there of purple or pink (another), yonder of ultramarine blue (larkspurs), and another of checkered white and blue (lupines). But, more generally, these hues are blended, some imperceptibly diffused, others dashed in clear and definite lines and dots. But I labor in vain. No sense but *sight* can convey the conception.

Arrived in the presence of these flowers, the admiration inspired by the distant view becomes astonishment and delight. You are greeted by a variety of exquisite, upturned faces never before seen, unless in Eastern gar-

dens. The pink-like calendrinia, the pure white forget-me-nots, the fantastic castillejas and orthocarps, the strange and curious clovers, the pretty trepocarps and thysanocarps, each gem of floral beauty produced by millions on millions. This it is that justifies Fremont's poetic figure—"California, the rosy-footed."

It becomes me to add, lest a false impression result from the above remarks, that on all these flowery plains and mountains the plant which outnumbers all the rest combined, forming the substantial verdure of nature's carpet, for the brilliant flowers have but little foliage—that plant which feeds the animal creation by thousands and millions with the richest food, is the *erodium cicutarium*, not a grass, but a geranium. This plant is sweet to the taste, exceedingly hardy, and produces immense quantities of seeds.

The general scenery of this State should here receive a passing notice. I mention the plain of San Bernardino as an example characteristic of the State. This plain is far inland, some eighty miles in length and twenty in width. It is almost treeless, but in some parts overgrown with *chaparel* (i. e., bushes), and naturally is one entire flower-garden. Very few streams of water cross this vast plain; they sink into the ground. But the surroundings! Along its northern limits runs a mountain ridge, almost continuous, its whole length, consisting of naked sand-rock, precipitous everywhere, towering above the clouds, and finally culminating in the grand mountain of San Bernardino, nearly nine thousand feet above the ocean level, and capped with snow most of the year. Along the base of this range, within a mile or two of it, yet on a smooth, open plain, we travel by stage near eighty miles. What a route for a railroad! Then, looking southward, the plain terminates in mountain scenery of great variety, some peaks arising solitary, others in pairs, threes, groups of giants, but all bald and treeless, except in the deep cañons by which they are cut and cleft in the wildest manner. As to this plain, it is fertile; and although no rain falls after April until November, it is as productive as perhaps no lands are in the Mississippi Valley, or anywhere outside California. Innumerable streams from the mountains saturate the soil, sinking into it, not running over it, so that water is everywhere found within a few feet of the surface. All products, both temperate and tropical, may grow there.

But I must say a few words about Santa Cruz. Here is a very rare combination of the grand, the beautiful, and the picturesque. Look southward; there lies the Pacific, the Bay of Monterey, and yonder, opposite, fifty miles distant, lies the city or town of Monterey; westward, the boundless ocean; northward, the hills and mountains, near and remote, are clothed, as in New England, with forests—and the lofty redwood is chief in those forests. (The appearance of that tree is mid-way between that of pine and hemlock.) From the forests flow many perennial,

babbling, clear-water streams, uniting to form the dashing, cool, and pure river, the San Lorenzo. And those forests are full of New England flowers, or, at least, of flowers very nearly related to them, such as the columbine (*aquilegia*), the Solomon's seal (*smilacina*), the wood-sorrel (*oxalis*), white and yellow violets (*V. Canadensis* and *V. puluscens*); the pretty trientalis, also, with its starry flowers. There I seemed once more at home. As to the town itself, it is built on *three* terraces or tables, the first fronting the river, the second fronting the ocean, and say one hundred feet higher, and the third fronting both, and raised another hundred feet. In the vicinity is a kerosene distillery (they distil it out of sand!) a gold mine (shaft eight hundred feet), vast quicklime works, a powder-mill, a paper-mill, flour-mills, etc., also a Jesuit Cathedral mill of the middle ages, which grinds exceedingly fine. Here are four Protestant churches—ay, and also free, public, graded schools, conducted on the plans and principles of the nineteenth century.

CHEMICAL AND PHYSICAL MANIPULATION.

THE recent action of Congress, in setting apart such a large share of the public lands for the purpose of fostering the study of applied science, can scarcely fail to give such an impetus to this kind of education as must cause any teacher who remains deficient in this department to fall behind.

On the importance of practical familiarity with philosophical apparatus, and the best method of using it, we do not deem it necessary to enlarge. Faraday, the highest authority of the age, thus speaks of it: "By ready and accurate manipulation, an advantage is gained independent of that belonging to the knowledge of the principles of the science; and this is so considerable, that of two persons having otherwise equal talents and information, the one who manipulates best will very soon be in advance of the other; for the one may obtain satisfactory conclusions from his experimental inquiries, while the other is left in doubt or led astray by his imperfect or incorrect results.

"This advantage may be illustrated by the use of the tinder syringe, a small instrument consisting of a cylinder about half an inch in diameter and three or four inches in length, closed at one end and fitted with a piston, to the extremity of which a piece of amadou is fastened. By forcing the piston down, and compressing the air *suddenly*, so much heat is evolved as to fire the tinder. Some persons cannot perform this simple experiment, whatever may be the strength or alertness which they endeavor to bring into action; while others, with a very slight force and the mere approach of their hands towards each other in the air, will in every

instance obtain the effect desired, and produce the required ignition. Were this a new experiment to the persons making it—the object being to prove whether air, when highly compressed, gives out much heat or not—the first person would either come to a wrong conclusion, or, if he doubted the success of his experiment, would arrive at none at all; whilst the second would be enabled to form a correct and affirmative decision, and thus would have added an important fact to his previous knowledge.”

But it is not in experiments of research alone that the importance of dexterity is manifest. However firm may be the faith of the student in his text-book and in his teacher, experimental failures have a decided influence in lowering his faith in the first, and making the second a subject of ridicule. In vain does the teacher explain or excuse the unfortunate failure. His pupils have been taught to rely implicitly on the uniformity of nature's obedience to law, and to their minds the evidence is very clear, that either this faith is groundless, or the teacher does not understand his business.

How different when an experienced manipulator attempts to illustrate a proposition! It may have taken hours to make the arrangements, and the operations may be difficult and complex, but the whole thing is done at the right time, without apparent effort, and with no slopping or confusion; the illustration seems to present itself, instead of being presented; the pupils are pleased with a beautiful experiment, while the teacher is gratified with that most pleasurable of emotions—a consciousness of success.

Skill in manipulation is, however, not the only requisite of a successful demonstrator. It is also necessary that his various experiments be suitably arranged, so that the pupil may be led step by step to a clear view, not only of the facts, but of the principles involved. Thus suppose it to be required to illustrate that most important of all pneumatic instruments, the barometer. The teacher might exhibit a barometer, show his pupils the Torricelli experiment, and close with a few confirmatory and illustrative experiments with the air-pump. And such, indeed, is actually the arrangement laid down in many of our text-books. How much better would it be if, instead of this crudely digested plan, the following system were adopted! First of all, impress upon the student the following facts, giving suitable experiments to illustrate them: 1. Air has weight; 2. Like all other fluids, it presses in all directions—up as well as down; 3. Cylindrical columns of the same diameter and weight, of different fluids, are of different lengths. After the student has clearly apprehended these points, show him two barometers, filled, one with mercury and the other with colored water. Call his attention to the fact that while the mercury does not reach quite to the top of the tube, the water fills it completely. Finally, remove the pressure of the air from the surface of the mercury and water, or allow the air to press on the top of

them, and a clear idea of all the facts connected with the barometer will have been conveyed.

Even in such a simple experiment as that designed to prove the weight of the air, there is a choice of modes of operating, these modes being very different as to conclusiveness and elegance. Compare, for example, these two methods of illustrating the weight of the air :

First. Weigh a flask ; remove it from the balance, screw it on the air-pump ; exhaust and weigh it again. The difference is, of course, the weight of air extracted from the flask.

Secondly. Exhaust a flask and equipoise it, having the weight-pan slightly the heaviest. Now open the stop-cock, and, as the air is heard to rush in with a whistling noise, call attention to the increase in weight.

Any teacher who will try these two methods before a class will find how differently the two systems will strike them. In the first case, a long interval, and the several operations of screwing, unscrewing, exhausting, attaching, etc., so break up the continuity of the illustration that it loses its effect, and the pupils have little more evidence than the word of the teacher. In the second case, the whole process is so clear, continuous, and striking, that it affects the mind like all well-presented facts. It is obvious that both methods might be combined with good effect in the same illustration. On looking over half a dozen of our popular text-books, I find that the first plan is the only one suggested. Dr. Draper, in his text-book of *Natural Philosophy*, minutely directs us to follow the second plan. Such an experienced teacher and skilful manipulator would, undoubtedly, adopt the best possible method. Theoretically, there is no difference in these two methods, so far as absolute proof is concerned. The patient investigator, carefully following out his experiments with a view to demonstration, would be satisfied with either. But the effect upon a class would be very different, and it is just these slight alterations which make all the difference between success and failure.

It might, perhaps, be objected that to dwell so minutely upon each instrument would require more time than can well be devoted to any one branch of study. It is, however, worthy the consideration of the teacher whether the student who has mastered the laws and facts relating to the barometer, the galvanic battery, the magnet, the steam-boiler, etc., has not acquired clearer and more practically valuable ideas than he who has studied generally all the different divisions of physics.

A YOUNGSTER, perusing a chapter in Genesis, turned to his mother and inquired if people in those days used to do sums on the ground. He had been reading the passage : " And the sons of men multiplied upon the face of the earth."

THE FUGITIVE.—A DIALOGUE.

CHARACTERS:

CHARLES, *King of England.*BARNEL, *a peasant.*CATHERINE, *his wife.*

SOLDIERS.

SCENE I.—*A Solitary Spot. Time—Evening.*

Charles (in disguise.) In this quiet spot, I would that I might forget the turmoil of faction and strife that surrounds me, and find rest. Hunted like a wild beast, the King of England well may envy the meanest peasant. Ah, here are signs of life; yonder is a woodman's hut, where, mayhap, I may find somewhat to appease my hunger. The craving stomach must be satisfied, though the head fall for it.

SCENE II.—*A Small Room. BARNEL sitting. CATHERINE clearing the table.*

Barnel. I tell thee, good wife, we must not give to all these strangers that come our way.

Catherine. Faith, man, an' I'll do as I please. While I am mistress here, none shall go hungry from the door.

Barnel. But we must be prudent. In these evil days one knows not whom he serves. Should followers of the king—

Cath. (interrupting.) Always afraid for thy precious pate. I tell thee, man, the king—though they do say the battle went sore against him—is still our king; and I would serve him, and all that were with him. Hark! some one is at the door. [BARNEL opens the door.]

Charles. Good-even, good man. Canst show hospitality to a poor wayfarer, and give him food?

Barnel (eyeing him suspiciously.) And who art thou?

Cath. (pushing BARNEL aside.) What does the man want?

Charles. Food, good woman.

Cath. In the name of the king, then, come in. Catherine Arnold will not refuse such cheer as her poor hut affords. Would it were better!

Barnel. Nay, good wife, an' we give to every one that comes, we shall have nothing for ourselves.

Cath. Peace, man! We have food, and to spare (*laying the table*). Hark ye, stranger, why should a strong man be begging bread when the king has work to be done? Good faith! were I a man, I should not long be idle.

Charles. And what wouldst thou do, good woman?

Cath. Do? What every Englishman should do—fight for our king and his cause, until that canting knave, that brewer's lout, Cromwell, be brought to the block.

Charles. Would that thou wert a thousand men!

Cath. Art, then, his friend?

Charles. I am.

Barnel. Thou shouldst have said that sooner. I would not then have feared to welcome thee.

Cath. The surly dog! He is repenting of his ill-manners, I trow.

Charles. Speak not harshly, good dame. I have reason to be grateful to you both.

Cath. Not so, good sire. But draw nigh and eat. [*CHARLES obeys, while they watch him curiously. Sound of approaching horsemen.*]

Barnel (*springing up.*) Away! 'Twere death to us were you found here by Cromwell's troopers. Haste! or we are undone.

Charles. God forbid that your hospitality should bring you harm! I will go.

Cath. (*angrily to her husband.*) Cease, fool! or your cowardice will betray us. [*HURRIES CHARLES to a corner and conceals him with bags of meal. A loud noise at the door. BARNEL sinks upon a settle, CATHERINE opens the door. Armed men without.*]

Leader (*entering.*) Good woman, has a stranger passed this way to-night?

Cath. No, my lord. I have seen none pass.

Leader. Surely he must have come this way. (*To his men.*) Enter. We will search.

Cath. (*indignantly.*) For what?

Leader. For that son of Belial, Charles, whom Cromwell—

Cath. (*aghast.*) Our king! In this poor hut!

Leader. Ha! Call'st him king? Jade, thou liest! Thou hast seen him. (*Seizing BARNEL.*) Who is this?

Cath. 'Tis my husband, good sire; he is ill.

Leader (*shaking BARNEL.*) Hark ye, man. Bestir thyself. Knowest thou aught of Charles?

Barnel (*trembling with fear.*) I? N-o. No. I—

Cath. My lord, do not disturb him; he scarce knows what he says.

Leader. Man, tell me, has there been a stranger this way to-night?

Barnel. No-o, my—lord. I—I—oh, but I'm very sick, my lord.

Cath. (*angrily.*) Wouldst worry a sick man? I tell thee he knows nothing when the fever is upon him.

Leader (*approaching the bags.*) What have we here? Corn? Lay hold, men; our horses have need of this.

Cath. (*beseechingly.*) Surely, my lord, an' our need is greater. Do not take from us our only store.

Barnel (*tottering forward.*) Nay, nay, good sire, you must not take that.

Leader (*seating himself upon the pile.*) Verily, thou death's prize, thou hast great concern for what thou wilt never live to eat. Stand back, or

we may hasten thy burial. [BARNEL cowers back trembling and groaning.] What ails the man?

Cath. 'Tis the fever, my lord—the fever. I pray you disturb him no further. You but waste time here.

Leader. True. He is not here. We have missed the trail in this vile wood, and must find it ere the night falls. Mount! [*They ride away.*]

Cath. (*angrily to her husband.*) Fool! thy craven tongue had well-nigh undone us, and betrayed our king. Thy trembling knees and ashen face were better than thy brains. [*Removes the bags.*] Your majesty—

Charles (*arising.*) Hope has sprung up within me. I may yet escape. My good dame, I thank thee for my deliverance. When the king is on his throne again, thou shalt not be forgotten.

HENRY HUDSON.*

ALTHOUGH the fame of Henry Hudson is co-extensive with the civilized world, there are few men of whose personal history so little has been positively ascertained. Nothing is certainly known of him prior to April 19th, 1607, when he suddenly appears as a captain in the employ of the "Company of Merchant Adventurers." His birth and parentage are uncertain, and even his personal appearance is unknown, for no portrait is extant. Mr. Read's "Historical Inquiry" is an ingenious attempt to determine the antecedents and family connections of this remarkable man.

Lower, in his *Patronymica Britannica*, gives the following account of the origin of the name: "Hodgson, the son of Hodge or Roger. This name, in the north of England, is pronounced, Hodgkin, while in the south it has taken not only the pronunciation, but the spelling of Hodson or Hudson. The name of Hodgson is ancient at Newcastle-upon-Tyne, being found in the records of *temp.* Edward I., and the Hodgsons of Stella and Acton, co. Northumberland, trace a clear pedigree to 1424." "Roger. . . . From it are formed Rogers, Rodgers, Rogerson, etc., and from its nickname Hodge, Hodges, Hodgson, Hodgkin—Hodd, Hodson, Hudson. The Norman patronymical form is Fitz-Roger, and the Welsh Ap-Roger, now Prodger." These names appear to have been interchangeable, and Mr. Read found much difficulty in tracing persons, it being by no means infrequent for a man to vary the spelling of his own name several times in a single letter. The name Hudson was spelled in twenty-one ways in manuscripts consulted by Mr. Read.

Our author first identified the name in the patent given by Queen Mary to the "Company of Merchant Adventurers," an association founded in

* A Historical Inquiry concerning Henry Hudson, his Friends, Relatives, and Early Life, his Connection with the Muscovy Company, and the Discovery of the Delaware Bay. By John Meredith Read, Jr. Albany: Joel Munsell. 8vo, pp. 209. \$5.00.

1555 by Sebastian Cabot, for the purpose of discovering a northeasterly passage to China and the East Indies. This company still exists, though no longer composed of explorers but of merchants, and is now known as the Muscovy or Russia Company. In the original patent of this company *Henry Herdson* is named one of the twenty-four assistant-governors. The same person is mentioned in proceedings of the Court of Chancery, but the name is there spelled *Hudson*. This man possessed great wealth and belonged to the skimmers or tanners of London, one of the twelve privileged corporations from which alone the Lord Mayor can be chosen. He served as alderman, was the intimate friend of Lord Clinton and Say, and died of pestilential fever in 1555, at London, where he was buried with great pomp. He left three daughters and eight sons.

The Hudsons seem to have held a leading position in the Muscovy Company. Thomas, son of the alderman, belonged to a circle of which Sir Francis Washington and Sir Walter Raleigh were prominent members. Capt. Thomas Hudson, evidently a relative of the one just mentioned, was commander of an expedition to Persia, fitted out by the company. Mr. Read found two Hudsons named Christopher, who appear from Chancery proceedings to have been father and son. The younger became a governor of the company, and took part in many of its heaviest ventures. Unfortunately, all positive information respecting him ceases in 1601, just six years before Henry Hudson, the navigator, made his first voyage to the American coast in the employ of the Muscovy Company.

Having traced the connection of the family with the "Company of Merchant Adventurers," Mr. Read concludes that in all probability the discoverer was grandson to Alderman Henry Herdson; and that he was trained in the service of the Muscovy Company. Certainly his life seems to accord with the latter conclusion, for his darling object was to discover a northeast or northwest passage to China and the Indies, which was the very aim of the company's organization. It is settled that he was a citizen of London, and had a house there. His family was influential. He had several children, but only one son, John, who belonged to his crew and shared his tragic fate.

Mr. Read gives a graphic sketch of Hudson's voyages, containing many facts which, we apprehend, will be new to some of his readers. On May 1st, 1607, Hudson started from Gravesend upon his first recorded voyage. His intention was to cross the North Pole north of Greenland; but he was compelled to relinquish this design, as the land extended further to the east than he had supposed, and a wall of ice extended from it to Spitzbergen. He then attempted to sail through Davis' Straits; and on his homeward voyage tried a lower latitude, but without success. On April 22d, 1608, he sailed on his second recorded voyage, having for its object the discovery of a northeast passage to the East Indies. The 15th day of June was notable in this voyage, for on it two of the sailors had the rare

privilege of seeing a mermaid, which was accurately described in the log-book, as cited by Mr. Read. After remaining some time at Nova Zembla, Hudson, seeing no prospect of an opening in the ice, became disheartened, and returned to England, arriving August 26th, 1608.

Although, as we have seen, the great navigator had failed to discover the northeast passage, yet his incidental discoveries were of such importance as to gain for him a widespread reputation. The Dutch East India Company, which had established itself as a rival to the Muscovy Company, fearing that under so enterprising an explorer the northern passage might be discovered, and their advantages thereby destroyed, determined to enlist Hudson in their service. Their negotiations were successful, and Hudson's third great voyage was made under their auspices. Why or when he left the Muscovy Company is not precisely known. With his heart still intent upon the discovery of a "passage by the north, around the north side of Nova Zembla," he set sail from Amsterdam on the 4th of April, 1609. At Nova Zembla he found the ice so thick as to render progress impossible. His crew mutinied, and demanded that he should obey his instructions, which required him to return immediately in case of failure. However, to accomplish something worthy of his reputation would not suffer him to take such a course, and, contrary to his instructions, he determined to seek another route. On May 14th, having gained the consent of his officers and men, he turned westward, and on 18th July anchored in (probably) Penobscot Bay. Here his lawless crew attacked a party of Indians, who were approaching the boat on a friendly errand. This so alarmed Hudson that he stood out at sea until the middle of August, when he found himself off the James River. Again steering northward, he discovered Delaware Bay on the 28th. A few days' observation convinced him that the passage to China did not lie that way. He then sailed up the coast of New Jersey until the 3d day of September, when he entered Hudson River. The voyagers reached England in November. The Dutch sailors were permitted to go home, but Hudson was detained, and informed that thereafter he should serve his own country.

In April, 1610, as full of hope as ever, he departed on his last voyage in search of the northwest passage. Again cursed with a wicked and mutinous crew, he suffered extreme hardships from their criminal misconduct. At length, on Midsummer's day, 1611, though he had just divided his last bread with the men, the ungrateful crew, thrusting him into a frail boat, with his son and several sick sailors, cut him adrift to perish in the arctic seas, amid the "great waste of waters which, bearing his name, is his tomb and monument."

Mr. Read is still engaged in his researches, and hopes soon to present information which will clearly establish his theories. As yet his arguments are mainly based upon hypothesis; nevertheless, they are so cleverly grouped that one can hardly doubt their correctness.

AMERICAN EDUCATIONAL MONTHLY.

SEPTEMBER, 1866.

KEYS TO SUCCESS IN MODERN SCHOLASTIC ENTERPRISES.

IT is presumed, that, in the commencement of an undertaking, it is the intent of the party interested so to arrange its bearings that they may terminate in the accomplishment of a preconceived design. In business transactions, which comprise the larger portion of such enterprises, the goal to be attained is the acquirement of wealth, or money, its representative. To the masses of humanity, and therein schoolmasters and school-mistresses are included,

"This is the butt—the end—
The very sea-mark of their utmost sail."

If this be so, some experience enables us to expose to public view how this termination, pecuniary success, has latterly often been (and may yet be) obtained by one who seeks it in city communities as a principal of a modern fashionable school.

To begin. He who desires to succeed in such a position will find, primarily, the best way to prosper is to subordinate every thing to the public will. Both children and parents (this is the right order of procedure) are to be consulted on all occasions. If his experience runs counter to their desires, let him abandon it. Above all things, let him remember he is not a clergyman, whose duty it is to instruct mankind, but a school-teacher, whose interest is to make money. Let him, therefore, avoid strict and old-fashioned discipline. In the present age, to establish a really orderly school is a doubtful experiment, whilst to yield gracefully to the public will is a certain success. The mere matter of education is a secondary concern. The real effort of the instructor has the same goal as that of the lawyer or the merchant; and he will not here fail in his mission who secures his own and his family's interest by the acquisition of wealth.

Passing over the selection of the site and the various methods by which notable references are, alas! at present too easily procured, we arrive at the first grand *desideratum* required, which is, "novelty." Either some innovation in his system, or some prominent specialty in his educational

course, is a *sine qua non*. It matters not how singular it may be ; indeed, the more grotesque, the better for his purpose. Let it be the broadsword exercise, or the study of Hindostanee ; some novelty the fashionable public require and will have. The selected specialty should be brought to the notice of the patrons of the establishment on all occasions. It must be explained to them, that (in case the former be selected) their children cannot even walk properly without a fundamental knowledge of the broadsword exercise ; or, if the language be the object chosen, that the first principles of English Grammar are sealed books to youths who have not previously conquered the orientalism of Hindostanee.

In the remark on discipline it is not intended to be asserted that a school can be conducted without some order. A kind of rollicking guerilla authority must be maintained. In such case proper opportunities must be seized, and the laws enforced on proper objects. Discrimination in public or private schools largely obtains at present. In the cases of the children of notabilities, it is well to remember the description of leviathan, in the Book of Job,

"Lay thine hand upon him, remember the battle, do no more."

It is true, this favoritism may cause some heartburnings in little breasts, but there is no good without its modicum of evil. Remember, it is necessary. Remember also, that schools such as are now treated of are better governed by tact than by laws.

As, without perfect order and discipline, there can be little hope of steady progress, the deficiency must be supplied by its similitude. Real knowledge must be improvised by superficial. *Par exemple* : in Arithmetic begin with extraction of the cube root and work down to addition. Of course, the professors who, at stated periods, visit the school must conform to its regulations. Sketches must be shown executed by pupils who know not how to draw. Supersede Bertini by Mozart as soon as possible. As a general rule, rising men are more pleasant and reliable than established professors. Any thing is preferable to submission (in matters of instruction or discipline) to the caprices of old fogies, who insist on children walking up the hill of science, in preference to the modern method of flying and lighting on its summit.

Another key to success is show or exhibition. If a girls' school, in emulation of some of the larger scholastic centers, set apart one day in the week for the reception of the public. This methodical arrangement, it is

presumed, is copied from the Chinese, who, previous to the time of the great commissioner Lin, appointed one day in the year in which to search for opium. Due notification having been given to foreign barbarians, they, as a matter of course, never found any. In like manner, parents will find those establishments in which the "reception" custom is practiced—never unprepared.

In addition to this, it would be well to spare the children the dry drudgery of another morning's toil in the winter, by sacrificing a day now and then to scientific or musical entertainments. Patronize lectures on all subjects; they are an easy method of imparting instruction, which saves much toil both to teachers and pupils. In summer-time, occasionally organize the school into an exploring party, and go in search of geological or botanical curiosities. As these, however, are common, an additional charm might be found in a piscatorial expedition, which, on the sea-line, might also be termed (for despite of Shakespeare there is much in a name) a "conchological survey." Credit is taken for this suggestion, it being surmised that this mine has never been worked. Careful attention to the foregoing hints will be found, in cities, very certain to command success.

PERVERTED EDUCATION.

IT is rashly assumed by many patriotic people that our public schools are the bulwarks of our liberties, the hope and pride of the nation. Even those who, in their zeal for the good cause, find much in our schools to condemn, are careful to avow the belief that the good in them vastly surpasses the evil, and that their aggregate effect conduces greatly to the glory and prosperity of the country and the permanence of its institutions.

But this, it seems, is a mistake, a grievous error, for the discovery of which the world is indebted to *The Weekly Dull Blower* of this city. In a recent number of that loyal and intelligent paper appears a "leader" which annihilates our confidence in the schoolmaster, exposes the weakness and wickedness of our schools, and deplores the "perverted education" which results therefrom. A terrible example is made of Massachusetts. This State, the D. B. avers with characteristic regard for truth and good grammar, "is full of schools, but no State or people in the land are so ignorant or so incapable of self-government. From the beginning they have opposed every acquisition of territory, every step of

national progress, and, as a State, never yet furnished a single soldier or a single dollar for the national defence." What a blow to the historic pride of Massachusetts, and how humiliating must this sweeping charge of ignorance be to the galaxy that revolves about the Hub!

It appears, likewise, that our "Abolition press and preachers, . . . poor, deluded, besotted creatures," are as bad as the schoolmasters;—"they have the amazing impudence to talk of the superior intelligence of the North!" Surely, they can never have seen the D. B., or they would be less extravagant in their estimate of Northern intelligence.

But the closing outburst of the righteous indignation of the D. B. surpasses every thing. "Indeed," it exclaims, "few of the teachers, preachers, professors, etc., [especially the *etc.*] that have charge of the institutions of learning have the remotest idea of true liberty; and if they could all be driven from the land and their school-houses burned, it would be a stupendous gain to Republican liberty."

Every good citizen will perceive the truth and justice of all this, and will rejoice to aid the execution of so patriotic a proposition. We would respectfully suggest, however, that the driving and burning be postponed to a cooler season. It is too much even for comfortable contemplation this hot weather.

JOURNALISTIC HONESTY.

A SHORT time since, having occasion to speak of the honesty of educational journals, we expressed the belief that, without exception, the conductors of such journals in the United States were honorable men. We would be sorry to have to abandon that belief or to retract our expression of it. Nevertheless, we must acknowledge that our faith in its generality has been seriously shaken; and that, too, by our nearest neighbor—*The Connecticut Common School Journal*. In the July number of this fair-looking monthly we find, copied in full from our May number, an interesting article entitled "A Few of My Troubles;" but we have looked in vain for any acknowledgment of the source from which it was obtained. The same article has been extensively reproduced throughout the country, but we are aware of no other instance in which it has not been duly accredited to the MONTHLY. Now, we have not the slightest objection to such use of our articles; we have repeatedly said that our editorial brethren are welcome to any thing in the MONTHLY, *provided due credit is given*.

In the present case, if the offending journal did not itself prove the contrary, we would have charitably supposed the theft to be not so much intentional as the result of an ignorance of professional courtesy. But, since the entire number, with a trifling exception, was made up of pickings from other educational papers—all properly acknowledged—and stealings from the MONTHLY, we can see in such conduct nothing but intentional discourtesy and dishonesty. This is the first instance of the kind that we have met this side of Canada. For the good name and fame of American educators, we hope it will be the last.

We are happy to learn that Mr. Camp, the resident editor of the *Journal*, being in England at the time, was not directly responsible for this occurrence. No doubt, he supposed he was leaving an honest man in charge.

EDITORIAL CORRESPONDENCE.

"A FEW OF MY TROUBLES."

I WAS much interested in the account which a contributor in your last number gives so graphically and playfully of her troubles in school-keeping, and shall be glad if I can lend her some little aid in ridding herself of them.

The grand source of her troubles evidently lies in the fact that she teaches after a stereotyped plan, which has been handed down from time immemorial, and is so fixed by long-continued custom, that few teachers have the boldness to break loose from it, in the face of the expectations of parents and the requirements of school-committees. It is the plan that makes education consist mostly in mere drilling—in the teaching of letters, and words, and forms of expression, and processes, while the interesting realities, the *things*, to which these relate are left to be learned by chance. Such a mode of teaching must necessarily be, as your contributor says it is, "dull, commonplace, absurd, wearisome." Its influence, therefore, both on pupil and teacher must be in some respects bad. Of its influence on the teacher, Dr. Holland says truthfully, "I suppose it must be admitted that there is something in the business of teaching [he should have said, *as commonly pursued*] which tends to make the character dry;" and he attributes this to an "everlasting handling of materials that have lost their interest," which, he says very truly, "is a very depressing process." In elucidating the subject, he remarks that "there is a class of teachers who seem to be really interested in the drudgery of repetition, and these are all dry characters, and they grow dryer and dryer till they die."

Now, your contributor is not one of these dry characters. If she were, she would not be restive and discontented in pursuing the common routine which custom has prescribed. She longs for something better—some-

thing less dry—and longs so hard that she utters forth her troubles frankly and freely.

The great cause of the dryness of teaching is a lack of interest, and this comes, as already hinted, from the shutting out of *things*, and making education a mere concern of *words*. The memorizing of words and forms of expression is made the chief thing, and thinking is left to take care of itself, and so is mostly left undone, and what little is done is very indefinite and loose. Hence your contributor says very truly, "My pupils only get a smattering of their various studies. Very few of them ever thoroughly investigate any subject. It is a mournful fact that the rising generation are not troubled with hungerings and thirstings after knowledge." And her experience, thus frankly stated, is just the truth about teaching in general.

But make mere memorizing, as it should be, subsidiary to thinking, instead of letting it completely smother thinking, as is commonly done in the school-room—prompt to thinking and guide it; and a new face will be put upon things at once—a new life will be waked up in the pupils, the life which thought always gives. Real knowledge, the knowledge of things, is now communicated, and your contributor, with such teaching inaugurated, will no longer have any "misgivings" as to the truth of the maxim that "knowledge is power." It is the knowledge of mere words and technicalities that she finds to be so powerless, and not that which is gained by thinking. Of the power of this latter knowledge the pupil, even though very young, will be conscious quite as readily as the teacher, and this consciousness will awaken "hungerings and thirstings after knowledge."

Thus waking up the minds of her pupils to vigorous action, your contributor may realize in full what "the eloquent and popular Mr. B." says of her vocation. She may build temples "that shall stand when palaces have crumbled and the adamantine hills have melted away," and kindle lights "that shall shine on when the world is lost in ruin, and the stars and suns have ceased to be." Surely, "it is a glorious work" thus "to train immortal minds;" for it is the training of the thought which may go on forever, and not the mere crowding the memory with words, which will easily fade from it unless by mere chance some thinking happens to be connected with them.

Your contributor seems to think that such schools as hers will stand a poor chance of sending forth to the world, as is indicated by Edward Everett, in some speech, any Newtons, or Herschels, or Franklins. It is certainly true, we must allow, that the stereotype plan of teaching is not calculated to develop the germs of such minds, but rather represses their growth. It does not furnish the food which such minds crave, and, therefore, they are very apt in the school-room to be accounted dull, in comparison with the facile memorizers who pertly and glibly recite words and technicalities to the satisfaction of teachers and the admiration of visitors, the absence of the questioning of thought really favoring the even onflow of the recitation. But the teaching of things, in place of mere words, is calculated to develop such minds; and if this mode of teaching were generally adopted, vastly greater numbers of the scholars that go out from our schools would be found in the walks of science, following in the footsteps of Newton, and Herschel, and Franklin.

The extent to which the teaching of things is left out in ordinary edu-

cation cannot be realized by any one till he has applied tests which will show it. I have applied such tests. I will give but a single example. A class of very bright boys in a public school were reciting square measure. Suspecting that, after all, they did not know what they were reciting about, I asked them if they could any of them tell me what the difference is between a foot and a square foot. They all stared at me with an expression which seemed to say that I had asked a question which I had no business to ask. At the same time, it was the blank expression of ignorance. To test the matter still further, I asked if any of them would go to the blackboard and make first a foot, and then a square foot. Several hands were held up, and the teacher told one of the boys to go to the blackboard. As he began by making a curved line, I asked him what he was making. "A heel, sir," said he. This did not provoke a laugh in the class, as it would have done if they appreciated the blunder. The fault in the teaching here was, that the teacher took it for granted that her pupils knew what the things—the square inches and feet—were, about which they were to recite.

But, perhaps, it will be said that the young pupils which one has at the very outset of education cannot be interested about things, and that the teaching must necessarily be much about letters and words. Just the reverse. Things are what they are naturally most interested in, and the teaching about things supplies the food which their minds crave. The drilling in letters and words is necessary, it is true, but it should be made supplementary and subsidiary to the teaching of things. Your contributor complains that it is difficult to make George (a very bright boy, I dare say) remember even the letter A. Why? Because there is really no interest about the mere figure of that letter. But let her show him the picture of a cat with the name underneath, asking him about his cat at home, and talking with him about the habits of cats. In this way she can interest him in the letters that make up the name cat. Or, without any such direct connection between things and letters, we can interest the child in the learning of his letters by first interesting him in things. And when he comes to get a little stock of words on hand, there is a *world* of things about which he can be taught; and this sort of teaching should not only be the main staple of his education, but it should be considered the chief means of giving him a knowledge of language. The teaching of language by grammars and reading-books, so common even now with all our improvements, is not only a dry way, but an ineffectual one. There is altogether too much of mere drilling in it. Reading and spelling should both be connected, as far as they can be, with the actual learning of facts.

I would say, then, to your contributor, who, I know by her interesting article, is really destined to be "a tip-top teacher"—take your pupils out into the broad field of nature in your teachings, and then you will not need to go out of the school-room to get "a whole skyfull of fresh air." You will thus bring the whole beautiful world around you into that school-room, instead of shutting it out, as is done now according to the prescribed modes of education. Break away from the bonds of custom. Banish the fear of school committees, and ten to one you will in a short time convince them that you are right.

One word more. Your contributor complains that she has trouble in governing her school. On this point I simply remark, that pupils who

are interested in their studies are more easily governed than those who are not ; and that, therefore, where drilling, with all its tedium and dryness, is made the sum and substance of education, a much more active and watchful discipline is needed than where a knowledge of things is made the staple of teaching, and mere drilling is considered as subsidiary to this.

A TEACHER.

GEOGRAPHICAL PUBLICATIONS OF GERMANY.

NUREMBERG, July, 1866.

IN a former letter I alluded, with some detail, to the excellent atlases published in Gotha by the house of Justus Perthes, and known, more or less, to geographical scholars in every part of the world. In accordance with a hint from our honored American educator, Hon. Henry Barnard, to speak in some one of my letters to the *EDUCATIONAL MONTHLY* about the best geographical publications of Germany, with especial view to the wants of school libraries of reference, I venture to call the attention of the readers of this journal to some of the other best works issued in this country, and more especially to those which are published in Berlin.

The two heaviest houses engaged in the preparation of original atlases, are, as I said in my last letter, Justus Perthes of Gotha, and Diedrich Reimer of Berlin. During the past winter I have had the pleasure of making the acquaintance of the latter gentleman, and have found him as far removed as possible from the traditional idea of book-publishers, as an ignorant, sordid, pushing, and unscrupulous class of men. Mr. Reimer is a man of scholarly habits and tastes, a man of wide geographical reading, and connected with the very best society which the intellectual capital of Central Europe furnishes. His honor and probity are even more strongly to be commended than his intelligence and culture. His scale of operations is not so extensive as that of the Gotha house, but the works which he publishes are quite as valuable. To a certain extent these two houses are rivals, but their rivalry is entirely free from a taint of that sordid meanness which sometimes creeps into trade. Justus Perthes enjoys the advantages of having his works revised and authenticated by the eminent geographer Petermann ; Reimer, on the other hand, has the assistance of the no less eminent Kiepert. These two men are probably not surpassed by any two geographers of the age, although the blending of scientific attainments is different in them, and unlike, too, that found in our own countryman, Prof. Guyot. Petermann is the greatest living cartographer, and cartography is the one province where he is truly strong. He is a man who studies the geography of the present time, the geography of past ages, and the reciprocal connection of history and geography are subjects to which he has paid little attention. Nor is he specially versed in the sister sciences, though by no means ignorant of them. I mean by this that has not that special training in geology, botany, and mineralogy which characterizes Prof. Guyot. He is a man who has steadily, from youth up, under the training of the eminent Ritter and Berghaus at the outset, pursued the difficult task of constructing original maps from the materials

collected by travellers and government surveyors. No man knows the face of the world, as it is now, more perfectly than he. All the physical features of all the continents are as familiar to his eye as the ornaments of his library, and whenever he glances at a map where the imagination of the artist has allowed itself scope in inserting mountains and in tracing rivers, Petermann's eye can detect the transgression at a glance. He is in just his sphere as the editor of the *Mittheilungen*, a monthly journal of geographical discovery, and all the latest items are forwarded at once to him, and when properly authenticated appear in the atlases of Justus Perthes. Whenever coal-fields are found in Spitzbergen, new lakes in Central Africa, new routes opened in Australia, new cities investigated in the heart of Asia, the monthly maps of the *Mittheilungen* at once record it and carry the newly gained knowledge to the geographical public of the world. The only German rival of this journal is the *Zeitschrift der Erdkunde*, published by Reimer and edited by Prof. Koner; but the latter being occupied by the care of the great University Library of Berlin, he is unable to devote his attention to geographical studies with the incessant application which characterizes Petermann.

Kiepert, who controls the chief publications of Mr. Reimer, is well known in America and England. Even if he had no other claim to our regard than the maps to *Robinson's Biblical Researches*, he would be worthy of all his fame, for those maps have almost never been surpassed. As a cartographer he has perhaps not quite the skill of Petermann, and although thoroughly familiar with the present condition of geographical knowledge in every part of the world, he is still more conversant with the geography of the past. There are some departments in which, as a geographer, he has no rivals; one of these is his familiarity with modern languages. I know of no geographer, excepting Berghaus and Kiepert, who is acquainted with Russian, one of the tongues of the greatest value to the geographer. Kiepert is even versed in the Arabic, the language of a hundred millions of people; and this acquisition is of the first importance. He being, beyond comparison, the first living authority respecting the whole field covered by ancient geography, a tract now largely in possession of Arabic-speaking tribes, he is enabled to do what such great scholars as Ritter have failed to do, namely, to introduce a uniform system of orthography into Arabic names. And Kiepert is, what Petermann makes no pretensions to being, a thorough historical scholar, and so his works take a wider range than those of the Gotha geographer. Both of them are agreeable, kindly, whole-hearted men, although I am told that no man can be more brusque than Kiepert on deserved occasion.

The principal works which bear the name of Kiepert are the Hand Atlas, the Smaller Atlas for Schools, the Ancient Atlas, the Wall Map of Palestine, and various special maps of countries; two of which, those of Turkey and of Russia, have been recently published. The Hand Atlas is a magnificent specimen of faithfulness. In execution it is far inferior to the great Royal Atlas of Keith Johnston; but in accuracy it has probably no superior. The maps are larger than those of the Gotha Stieler Atlas; yet, on the whole, the form of Stieler is the most practical, and the size is such that few readers have occasion to look up places which are not given on its pages. Yet, if one is looking for the most complete atlas published in Germany, he must secure Kiepert's Hand Atlas. The pre-

cise price I do not remember, but I think that the work can be imported for less than fifteen dollars. The size of each page is about two and a half feet by two.

Kiepert has a reduced form of this noble atlas, and an abbreviated edition of this, including the most important maps, and adapted to the use of schools. The latter can be imported for less than two dollars, and is an exceedingly valuable work, and one which may be cordially commended to our American teachers.

One of the important articles published by Mr. Reimer, and prepared by Kiepert, is his series of globes, which are not more remarkable for their cheapness than for their beauty. The ten-inch size is expressly to be commended. They are sold at three different prices, depending on the mounting, but the most practical form is the one with the half-brass meridian, costing here a sum equivalent to seven and a half dollars American money. The atlases named are far superior to any that I have ever seen in American schools, and it would be a great satisfaction to both the maker and the publisher to see them introduced on our side of the Atlantic. A few years ago when Hon. Henry Barnard was in Berlin last, he saw this series of atlases in their German lettering. He was so pleased with them, that he asked the publisher to cause an edition to be made with English instead of German names of places. This was accordingly done, and an English edition was prepared. The American war came on, and the edition is not known as it should be; but it is not too late now for it to be taken up by some house, and introduced to the favorable knowledge of our public. They can unquestionably be imported and delivered to our schools for eleven or twelve dollars of our present currency.

I must not omit to say that Mr. Reimer also publishes globes of a larger size, nearly or quite three feet in diameter, which, when handsomely mounted, make one of the most elegant of ornaments for parlor or school-room. They vary in price, from fifty to seventy-five dollars (gold), and are all executed under the auspices of Prof. Kiepert. These are published in German, it is true, but this need be but a slight hindrance in the way of purchasing them, since not one name in ten is at all different in the German spelling from what it is in the English. I remember seeing one of these large globes in the dining-room of Prof. Barth, and of being struck with its excellence and with its great beauty, even when regarded only as an ornament. Our larger schools and colleges, which seek a globe not merely as an instrument for use but a decoration of the teacher's platform, could hardly do better than to import one of Kiepert's large globes. Of the smaller ones I need not speak, since the ten-inch size is small enough and cheap enough to meet the wants of most schools advanced enough to need a globe at all. Still, I ought not to omit saying that Mr. Reimer publishes an article not much known in America, but, according to my own experience, of great utility, viz., relief globes. These are about thirteen inches in diameter, and cost here about ten dollars (gold). They are the best help that I know in enabling the pupil to grasp the general character of the elevations of the earth's surface. Nothing can quite take the place of these relief globes; engraving can very nearly do so, but not quite.

Among the other publications of Mr. Reimer are the immense and expensive atlases which accompany Ritter's *Erdkunde*, the globes of Adami, the mathematical charts of Wenzel, the meteorological works of

Dove, and a variety of special maps from the hands of Kiepert and other eminent chartographers. I have already alluded to the Monthly Journal of Geographical Discovery, which, although not so ably edited as Petermann's *Mittheilungen* nor so finely printed, is a sterling work. It is to be regretted that the German language is so little known among our teachers as to make it of little use if introduced into our schools.

Among the other valuable geographical publications of Berlin are the excellent relief maps and globes, published by E. Schotte, and the new photo-lithographic maps of Raaz, published by Korn. Mr. Schotte's reliefs are not originals, but they are well made and are faithful transcripts of the maps of Justus Perthes and Reimer. The best of all is one of Palestine, about three feet by two, which costs about four dollars (gold), and would be a valuable auxiliary to Sunday-schools as well as day-schools. Yet these are heavy and rather troublesome articles to export, and a good substitute is to be had in the excellent photo-lithographic maps of C. Raaz. These are first photographed from relief maps and then lithographed, the result being the best imitation of nature that I have ever seen. Messrs. Korn & Co. are now preparing an atlas, the first proofs of which I have seen, and of which I have the happiest hopes. The maps are large, and they present a country like Switzerland even before the eye with such wonderful distinctness, that every great mountain-form stands forth almost with the vividness of relief. I would rather have some of these maps of Raaz, than some of the poor Bamerkeller reliefs which used to come over to us from Switzerland. The art of making them is a new one, and was discovered by an American living in Australia. I do not know but that the photographic atlases are already known in our country; but if not, their elegance and attractions will yet make them known.

The atlases and kindred works mentioned in this letter and the preceding are the most important published in Germany, and form an indispensable auxiliary to the student, not only in the Old World but in the New as well. This, of course, is the only reason why I have dwelt on them so fully. The thorough geographers of the country where I write, while fully recognizing the great artistic merit displayed in the maps of England, France, and the United States, do not indorse, with equal emphasis, their authenticity. We shall unquestionably have in Prof. Guyot's series what will stand as high as any thing produced in Gotha or Berlin; and, in course of time, I have no question that the best atlases in the world will be published in America, the public which calls for them being so much larger than in any country of Europe. But at present we have to look to Germany for our best work.

In closing this letter let me briefly mention the works already alluded to, published by both the houses of Perthes and Reimer, which should enter into a first-class school-library of reference. I exclude Snyder's wall-maps, because for us they are practically rendered of little or no service by the publication of Guyot's maps of the same character.

1. Spruner's Historical Atlas. Two sizes, the largest much the best. Westermann of New York furnishes, however, a list of all of the maps, and they can be ordered, according to the teacher's discretion, at twenty-five cents each, and then bound. This is the best way of ordering Spruner, unless one wishes to give twenty-five dollars and have the whole work.

2. Berghaus' Physical Atlas. Expensive ; but Petermann's, a small work costing about four dollars, serves as a tolerably good substitute.

3. Kiepert's or Stieler's Large Atlas. Westermann furnishes the list of the maps in both of these ; and they, too, can be ordered at the teacher's discretion,—those of Stieler's costing only twelve cents each, and Kiepert's but twice that sum.

4. Kiepert's Globes. The sizes are specified above.

5. Reimer's or Schotte's Relief Globes and Maps. The lists can be ordered through Westermann.

6. Berghaus' Map of Commercial Lines of Communication. An admirable and useful work.

7. Menke's or Kiepert's Ancient Atlas.

8. Kiepert's Wall-Map of Palestine. Van der Veldt's is the best (published at Gotha), but not the distinctest when hung.

These are the best, and at the same time the most practical, it requiring no German to use them with advantage.

W. L. G.

SCIENCE AND ARTS.

DR. C. M. Wetherill has been engaged upon a series of very important experiments with the ammonium amalgam, to ascertain positively the existence or non-existence of the hypothetical metal, ammonium. From these he has drawn the following conclusions : The so-called ammonium amalgam is not an alloy of mercury and ammonium ; the swelling of the mass in the phenomenon is due to the retention of gas bubbles ; and the coherence of the gases and liquids concerned is changed from a normal condition, exhibiting phenomena which may be classed with those of catalysis. The experiments, detailed in Silliman's Journal, No. 119, are apparently conclusive.

—Fresh sources of the new metal, indium, have been found by Dr. Kachler, of Vienna. He discovered it in considerable quantity in the zinc-blende of Schönfelde, near Schlaggenwald. The blende is roasted and then dissolved in sulphuric acid ; on treating this solution with metallic zinc, the indium is precipitated with traces of other metals, from which it is afterwards separated.

—M. Soret has determined that the density of ozone is one and one-half times greater than that of oxygen ; and Regnault has arrived at a like conclusion. Dr. Boeckel, of Strasburg, has shown from observations made during eleven years, that ozone is most abundant in spring, that May is the richest month, that October and November are the poorest ; there is less ozone at night than during the day ; and the barometric variations, morning and evening, coincide with the quantitative variations in ozone.

—M. Betekoff asserts that the elements unite in inverse proportion to their specific gravity. Mercury, being heavier than iron, has less chemical energy. The investigator supposes that the laws of chemical affinity are identical with those of mechanics.

—Prof. Wohler, of Gottingen, has discovered a new mineral in some platinum ore of Borneo. It forms black, semi-metallic, very brilliant grains,

similar to crystallized iron. The specific gravity varies from six to nine. It consists of a compound of sulphide of osmium and sulphide of ruthenium. This is the first time that the platinum metals have been found in combination with sulphur, and will at once be seized upon by the advocates of the theory that the sulphur in the auriferous pyrites of Colorado is in chemical combination with the gold, as gold is classed by them in the platinum group. Wohler proposes the name *laurite* for the new mineral.

—M. Engelbach has discovered in the basalt of Annerod, at Giessen, near the Hartz Mountains in Germany, small quantities of the following very rare metals: Lithium, rubidium, titanium, and vanadium, together with traces of copper, cobalt, lead, tin, and chromium. There is much probability that with careful analysis, a trace of most of the metals might be found in nearly or quite all eruptive matter.

—A recent French work gives the following: Into a bell-jar full of air, a tube, entering at the bottom and carried nearly to the dome, carries a slow current of hydrogen—electric sparks are passed through the jar above the mouth of the tube; the hydrogen ignites and darts about the glass in the form of small luminous spheres. These soon become very numerous, and rush all round the inside, but never touch each other.

—In electrotyping, instead of covering the moulds with plumbago, it is better to cover it with acetate of copper or nitrate of silver, afterwards submitting them to the action of sulphuretted hydrogen.

—At a late meeting of the Boston Society of Natural History, Dr. B. G. Wilder exhibited a yellow band of the silk of *nephila plumites*, the geometrical spider, which had been woven in the middle of a ribbon by a power-loom. The thread consisted of eighteen threads reeled directly from the living spider. Twenty threads of the cocoon of the silkworm were necessary to make a thread large enough to be woven in the usual way.

—According to C. Robin, the ray is an electric fish, although less so than the torpedo.

EDUCATIONAL INTELLIGENCE.

NEW ENGLAND STATES.

NEW HAMPSHIRE.—The House of Representatives has decided to locate the Agricultural College at Hanover, in connection with Dartmouth College. The State will have five trustees and the college four, and the State reserves the right to assume the full control after fifteen years.

MASSACHUSETTS.—George Peabody has just made another gift of \$100,000 to the Peabody Institute, established by him at South Danvers. This gentleman has Yale College next on his list of endowments. It is said that next spring he will begin the erection of a building for a geographical cabinet, with ample accommodations for a chemical laboratory and a philosophical lecture-room.—The Boston public library contains 123,000 volumes. Its largest con-

tributors are Joshua Bates, of London, who gave \$100,000 worth of books, and Theodore Parker, who left 11,000 books and 3,000 pamphlets. In 1865 nearly 195,000 books were lent, or an average of 708 per day. The greatest number given out in a single day was 1,464. The superintendent reports a constantly improving character in the circulation; that it is tending strongly to the more substantial and useful class of books.

CONNECTICUT.—The late Augustus R. Street left by will \$100,000 to Yale College. This, with his donations while alive, swells the aggregate of his gifts to the college to more than \$250,000.—The Sheffield Scientific School buildings at New Haven have been enlarged by the generous patron of the school, Joseph E. Sheffield. Two towers have been built, one for the new

telescope and the other for the meridian circle. The instruments are also the gift of Mr. Sheffield, who has spent in all some \$150,000 upon the school and its buildings.—Mr. James B. Hosmer, of Hartford, has given \$50,000 to the Theological Institute at Hartford.

MIDDLE STATES.

NEW YORK.—The burning of the Medical School buildings of the University of New York is not likely to prove so great a calamity as at first supposed. The school has formed a connection with the New York Hospital, whereby it secures advantages excelled by those of no similar institution in the country.—Cornell University, at Ithaca, New York, is advancing towards complete organization. Ezra Cornell gave \$500,000, and the State pledged the income from its land-grant fund, in order to secure the establishment of this institution. The agricultural department will be opened in 1887. The annual income of the building-fund is \$35,000. The policy in erecting the buildings will be to use only the income, and have the general fund unimpaired. Mr. Cornell is buying in and locating the land scrip, and hopes to secure \$3,000,000 as the grand endowment of the institution.—Rochester University intends to erect a memorial tablet to the memory of those of its students who fell during the war.—At a late meeting of Methodists in Rochester, it was resolved, that "in our judgment, the three annual conferences, Oneida, Black River, and Wyoming, should realize the sum of at least \$200,000 for the purpose of endowment of the Genesee College, provided it be removed to a more central location."

PENNSYLVANIA.—The last report of the Philadelphia Public Schools shows a total of three hundred and seventy-three schools, one thousand three hundred teachers, and seventy-eight thousand scholars. Total expenses for the fiscal year \$319,419 87. Increase over previous year one thousand six hundred scholars.

SOUTHERN STATES.

DISTRICT OF COLUMBIA.—The following bill has passed the House of Representatives:

Section 1. That there shall be established at the City of Washington a Department of Education for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several States and Territories, and of diffusing such information respecting the organization and management of schools, the school system, and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of dif-

ferent school-systems, and otherwise promote the cause of education throughout the country.

Section 2. That there shall be appointed by the President, by and with the advice and consent of the Senate, a Commissioner of Education, who shall be intrusted with the management of the Department herein established, and who shall receive a salary of \$4,000 per annum, and who shall have authority to appoint one chief clerk of his department, who shall receive a salary of \$2,000 per annum, one clerk who shall receive a salary of \$1,800 per annum, and one clerk who shall receive a salary of \$1,600 per annum; which said clerks shall be subject to the appointing and removing power of the Commissioner of Education.

Section 3. That it shall be the duty of the Commissioner of Education to present annually to Congress a report embodying the results of his investigations and labors, together with a statement of such facts and recommendations as will, in his judgment, subserve the purpose for which this department is established. In the first report made by the Commissioner of Education, under this act, there shall be presented a statement of the several grants of land made by Congress to promote education and the manner in which these several trusts have been managed, the amount of funds arising therefrom, and the annual proceeds of the same, as far as the same can be determined.

Section 4. That the Commissioner of Public Buildings is hereby authorized and directed to furnish proper offices for the use of the Department herein established.

The report on the colored schools for May is gratifying. There are 63 day-schools, with 126 teachers and 6,414 scholars. The night-schools are 12 in number, with 463 scholars, and there are 19 Sunday-schools with 2,555 scholars. The industrial schools reported are 5 in number, employing 181 women.

VIRGINIA.—C. H. McCormick has subscribed \$30,000 as endowment of a professorship in the Union Theological Seminary, near Hampden Sidney College, Virginia. He has also added \$5,000 to his contribution of \$10,000 for the endowment of a professorship in Washington College, Lexington, of which General Lee is president.

SOUTH CAROLINA.—Superintendent Tomlinson reports 75 freedmen-schools in South Carolina, with 9,017 pupils, and an average attendance of 6,574. There are 143 teachers, of whom 58 are natives and 50 colored. One other school, from which there were no returns, would swell the number of pupils to 10,000. The interest of the colored people in the schools continues unabated, and that of the white people is growing; yet there are some places where it is said no school could be established, nor tolerated after the garri-

has been withdrawn. A very successful public examination of the colored school, held in the Normal School building, took place in Charleston, May 30th.

LOUISIANA.—The whole number of pupils registered in the forty-two public-schools of New Orleans is 16,749, and the average attendance is 9,782.

WESTERN STATES.

ILLINOIS.—The directors of the Chicago Seminary have voted to raise \$200,000 for its more complete endowment.

KENTUCKY.—The State Superintendent of Instruction, J. D. Stevenson, reports for the year 1865, 3,984 schools, the number of children residing in districts in which schools were taught, 297,772; the highest number attending school, 144,364; the lowest, 49,280; the average attendance, 92,957. The school fund amounts to 1,400,000, and is invested in State bonds and bank-stocks.

TENNESSEE.—The Nashville *Dispatch* has some important figures upon the condition of public-schools in that city, which go to show a remarkable progress, despite the injurious influences of the war. It says that in 1855, 1,172 tickets were issued to the pupils, 24 teachers employed, and \$13,407 expended for school purposes. In the year just closing, however, it appears that 3,134 tickets were issued, 50 teachers employed, and \$50,000 was the amount of school estimates.

FOREIGN.

ENGLAND.—The Ragged School Union, London, presided over, like the City Mission, by Earl Shaftesbury, reported 326 Sunday-schools, with an average attendance of 26,000; 204 day-schools, with an average attendance of 18,750; and 217 evening-schools, with an average attendance of 8,384; total, 747 schools, with an attendance of 61,984. This is an increase of about 70 schools and 3,000 scholars. The Union employs 596 paid teachers and 480 paid monitors in its schools. It has 450 boys and girls in the refugees connected with it. Its clothing clubs have received £1,639 in deposits. Its penny-banks have had £4,778 deposited in them during the year past. Its shoe-black brigade, numbering 313, has earned £7,002, and in the fifteen years since the brigade was formed there has been a total earning of £55,708. 12,845 volumes are in the lending libraries of the Union.—Mr. Goldwin Smith is to resign his professorship at Oxford at the close of the current academical term. Among his probable successors Mr. Froude appears to have the best prospects. Mr.

Ruskin will probably succeed Matthew Arnold as professor of poetry. This professorship is tenable for five years by an M. A. or B. C. L.—A movement has been inaugurated by Archbishop Manning for the education of poor Catholic children in London. There are in that city 29,000 Catholic children who ought to be at school; of these, 7,000 are set down as absolutely without instruction. Thirty-five new schools are required. The archbishop is cordially supported by the Catholic laity and clergy.

IRELAND.—A female member of the Irish Presbyterian Church has made to the Assembly's College, Belfast, the handsome donation of £2,000 for the erection of dwelling-houses on the college grounds for two of the professors.

FRANCE.—The brothers Siegfried are organizing at Mulhausen, Alsace, a vast commercial college, somewhat on the plan of our American commercial institutions. The pupils, who must have finished their preparatory studies, will be taught foreign languages, book-keeping, ornamental writing, commercial law and geography, industrial economy, and the knowledge of goods in general. Sham business-offices are to be made, in which the forms of business may be acquired.—The government is making great efforts to supply the demand for a non-classical, yet really high course of instruction, which may fit youth for the highest industrial and commercial situations. The course of study determined upon differs little from the scientific course adopted in several of the American colleges.

RUSSIA.—Russia has six universities: St. Petersburg, founded by Peter the Great; Moscow, founded in 1755, by the Empress Elizabeth; Wilna, which in 1842 was transformed into the University of St. Vladimir; Dorpat, founded in 1632 by Gustavus Adolphus, destroyed in 1704, and revived by Alexander I. in 1802; Kharkov and Kasan, founded in 1804 by Alexander I. Each university has four faculties, history and philology, physical and mathematical sciences, law and medicine. Each university has fifty professors, with assistants. The students were thus distributed in 1864: St. Petersburg, 623; Moscow, 1,515; Kasan, 325; Kharkov, 523; St. Vladimir, 518; Dorpat, 660; total, 4,084. Of these, 847 were bursars, costing the government upwards of 25,000 pounds sterling per annum.—The gymnasia, or secondary schools of Russia, resemble the great schools of England, and are intermediate between the elementary schools and the universities. In 1864 they were 95 in number, and were attended by 23,429 pupils of all ranks and religions.

GREECE.—Amid all the vicissitudes of the nation the national university has in-

creased. In 1837 the attendance was 52; in 1864-5, it had advanced to 1,100. Like the German universities, it has four faculties. In 1864-5 there were 38 students in theology, 625 in law, 244 in medicine, and 193 in philosophy. 852 belonged to Greece, and most of the others came from Turkish provinces.

SANDWICH ISLANDS.—The details respecting the education of girls are taken from a Honolulu paper: "An hour in the morning is spent in gardening, the girls having under cultivation about two acres of land. Besides this the girls do all their own work, such as washing, ironing, and other house-work. Some of them are quite skilled in crocheting and other fancy work. Every afternoon the whole company, with their lady teachers, either go to walk or indulge in the aquatic sport of bathing and swimming, for which the river affords a fine place. Many of them are said to rival the mermaids in the celerity and grace with which they glide through, over, and under the water. Most of them acquired the art of swimming before they entered the school.

"Special pains have been taken to provide the scholars with all the modern appliances for exercise and out-door sports, such as swinging, rope jumping, etc., in which they exhibit all the zest and skill of their fair-skinned cousins in this and other climes. With them, however, as with other juveniles, each sport has its day and then goes out of fashion, and to the skill of the teachers is left to provide new ones.

"The girls are all taught to sing, and special attention is given to this branch of instruction, which requires early training

to develop it properly. Most of them sing any of the tunes in the two native tune-books, and also many of the more modern hymns and songs composed by the poets of Hawaii."

INDIA.—Both among the Hindoos and Parsees a decided beginning has been made in the education of their girls, and the movement must accelerate as the education of the males themselves becomes elevated and broadened. At the Convocation of the University of Bombay for conferring degrees, it was stated that 109 out of 241 candidates passed the matriculation examination in November last, of whom 86 were Hindoos, 19 Parsees, 2 Portuguese, 1 European, 1 Mussulman. Of 33 candidates, 15 passed their first examination in Arts; of 20 candidates for the degree of Bachelor of Arts, 15 passed examination; and 2 Parsee candidates passed the examination for the degree of Master of Arts.—Mr. Premchund Roychund (a lucky cotton speculator), who had already given \$100,000 to the Calcutta University, has given a like sum to the Bombay University, towards the erection of a library, and a further sum of \$100,000, "towards the erection of a tower, to contain a large clock and a pair of bells."

HAYTI.—According to an expose of the State of Hayti for 1865, just published by Government, there are 201 free national schools, daily attended by 13,896 pupils, besides eight private schools subventioned by the State; one clerical seminary, which has already produced three priests; one grand seminary in Paris, attended by government scholars.

CURRENT PUBLICATIONS.

SOME one has said, and said most truthfully, "Peace hath her victories, no less than war." The invention of the "art preservative of all arts," was an event of more real importance than any other which happened in the fifteenth century. The invention of the cotton-gin was an event more important than any one of the struggles through which our country has passed. Without the cotton-gin, the Seminoles in Florida had not been an obstacle to be removed from the white man's path; without it, Texas had remained a State of Mexico till now; without it, our "erring sisters" had never crowned cotton king.

The introduction of useful inventions, the progress of commerce and of the arts, the

progress of universal education in a State, and the discovery of new sources of wealth, as the gold of California, the copper of Lake Superior, and the petroleum of Pennsylvania, constitute a part of the experience of the people, add to their prosperity and happiness, and are equally worthy of the historian's pen. All such things, in connection with the action of their government, constitute a people's real history.

This truth is recognized in "Berard's School History of the United States."

The main portion of the book has been

(1) *SCHOOL HISTORY OF THE UNITED STATES.* By A. B. BEARD. Philadelphia: Gowerpathwell & Co. 13 no., pp. 323. \$1.33.

before the public for several years, and has already gained a high place, and done good service in the schools. The present is a new, revised edition, bringing the work down to the close of the great rebellion.

Instead of a preface, with a catalogue of apologies for intruding upon the good-nature of the public, the author has given an introduction of eight pages, containing a clear and concise account of the discovery of America by Columbus in 1492, and a succinct statement of the adventures and discoveries relating to the western continent down to 1607.

The main work is divided into twenty-four chapters of unequal length, according as their subjects are of greater or less importance. The first ten chapters occupy about one-third of the book, and relate to the settlement and progress of the thirteen original colonies. Here is shown the real origin of our republican form of government, of free institutions, of true religious liberty, and of that general diffusion of knowledge which mark us as a people. Chapters eleven to fifteen inclusive relate to the "War of the Revolution"—its causes, its conduct, and success. The next three chapters include the war of 1812-15, and bring us down to the war with Mexico, and the treaty of Guadalupe Hidalgo. Chapter nineteen is devoted to the political agitations and difficulties from 1832 to the breaking out of the rebellion in 1861; and chapters twenty and twenty-one give a history of the war that followed. Of the remaining three chapters, two relate to the early history, settlement, and growth of the mighty "West;" and the remaining one reviews the moral, educational, and material progress of the whole country.

While the chronology of events is preserved, the narrative is not abruptly broken off for the purpose of strictly following the exact order of time. The story is well told; and the opinions, religion, education, habits of life, and industrial pursuits of the people, are so interwoven, or connected with the narrative, as to make it, brief as it is, what it professes to be, a history of the United States—not of the Government alone, but of the Government and the people.

Aside from the historic facts which they acquire, few boys can well master its pages, without becoming, on that account, better citizens and better men.

The book is well worthy the attention of parents and of teachers. It follows the current of events down to the present time. And it is gratifying to make the acquaintance of an historian whose statements are facts, and who calls things by their right names.

While we are giving due and deserved attention to the study of the history of our own country, other countries and other times should not remain "a sealed book" to us and to our pupils. Ancient history is too generally neglected. Perhaps the one great reason for this neglect is that the books on the subject have hitherto been too large, containing masses of dry and unimportant details. Hence the usual course of study could not admit ancient history. Miss Yonge, the well-known author of "The Heir of Redclyffe," has provided a remedy in the publication of her series of "Landmarks of History." There are three books in the series: first, Ancient History, from the earliest times to the Mahometan Conquest; second, Medieval History, beginning with the reign of Charlemagne, and reaching to the Reformation; third, Landmarks of Modern History, extending from the Reformation to the present time. These most excellent little volumes are the standard in England, and have been largely imported by many of the better private and high schools in this country.

The first volume³ has recently been published in this country, and the other two will be put to press early enough to meet the requirements of classes which may begin the use of the first. Miss Edith L. Chase, a successful teacher of history in Philadelphia, has skilfully edited the American editions. She has carefully corrected the inaccuracies of the English editions, and has re-written some parts of the Grecian history, besides making several other important improvements. Her "Index for Examination" develops a most important principle. It presents single names and events, and accustoms the mind to connect with each the surrounding and relative facts.

(3) LANDMARKS OF HISTORY. ANCIENT HISTORY; FROM THE EARLIEST TIMES TO THE MAHOMETAN CONQUEST. By MISS YONGE, author of "The Heir of Redclyffe." New York: J. W. Schermerhorn & Co. 16mo., pp. 240. \$1.00

The plan of the book is to bring together the events most necessary to be remembered in ancient history, and to convey a general idea of the characteristics and course of the "Changing Empires" of classical times. In the space, it has been impossible to give much detail. When anecdotes have been introduced, they are such as must necessarily be known, or such as may lead to the better comprehension of the characters and ways of thinking of the great men of old.

The style of the book is pleasant, and will create a thirst for an acquaintance with larger historical works. In many cases it must beget an earnest love for the study of history. Its fascinating influences will draw the young beyond the trashy novels of the day, and create a lasting taste for profitable reading. As a text-book for the study of history, a reference-book for the home or school library, or even a class reading-book, this volume will prove acceptable.

Prof. Goldwin Smith has published a series of lectures on the study of history,³ delivered before the students of Oxford University. He fully accepts the doctrine of historical progress, although he differs from Draper and Buckle in his estimation of the causes. These gentlemen hold that human progress is produced almost wholly by material influences; Prof. Smith, while he does not ignore the force of physical agencies, maintains that revealed religion has been especially influential in the advancement of our race. In the course of his argument he gives a fine analysis of the strife between the great schools of metaphysics. The lecture on the foundation of the American Colonies is interesting to us, as it gives a dispassionate statement of the causes and effects of the Revolution viewed from a British stand-point. The volume contains also the lecture on Oxford University, delivered by Prof. Smith before the New York Historical Society during his recent visit to this country.

Too little attention is paid in our schools to the study of the fundamental principles upon which our political system is based. The consequence is, few of our young men when they arrive at majority have any bet-

ter knowledge of the rights and duties of citizenship than they would had they never been to school. If the time that is now spent on mythology and equally unprofitable gossips, mis-called history, were devoted to the study of the nature and history of our government and laws, we would have more intelligent voting, and fewer political blunders and abuses to complain of.

For this reason we rejoice at the increased attention which this subject is awakening, and, though we may not wholly agree with the author's views and conclusions, welcome to the list of school text-books Alden's *Science of Government*.⁴ Containing, as it does, facts which every American ought to know, it will prove of profit to the general reader, as well as to pupils at school.

In this fast age we are too apt to attempt to cultivate mind as the enterprising gardener pushes forward his early vegetables—in hotbeds. The Roman proverb, *sana mens in corpore sano*, will hold good in all ages—and all experience proves that a sound mind must be in a sound body. Every movement towards system in physical education is far more important than elaborate theories for perfecting mental education. Without physical health and vigor mental culture avails little. The popular success of the several schools for physical culture is auspicious of good results. And the demand for teachers of calisthenics and gymnastics in the public schools of our large cities, and the flourishing seminaries all over the country, shows that our leading educators are waking up to the importance of physical education. It is, however, impossible for more than one of a thousand of those who have charge of the education of our children to resort to these schools for physical training. Hence we consider that such men as Prof. Watson, in preparing practical works on calisthenics and gymnastics, have done a most important service. Prof. Watson's first book⁵ is a complete manual for individuals and families, and a systematic drill-book for schools and gymnasiums. It gives an extended

(4) THE SCIENCE OF GOVERNMENT IN CONNECTION WITH AMERICAN INSTITUTIONS. By JOSEPH ALDEN, D.D., LL.D. New York: Sheldon & Co. 12mo, pp. 262.

(5) MANUAL OF CALISTHENICS. By J. MADISON WATSON. New York: Schermerhorn & Co. \$1.25. Sent prepaid by mail.

(3) LECTURES ON THE STUDY OF HISTORY. By GOLDWIN SMITH, M. A. 12mo, pp. 269. \$1.75.

and varied course of physical exercises, *without apparatus*. The *INTRODUCTION* embraces all needful directions, rules, and explanations for instructors and pupils, with sections on phonetics and respiration. Throughout the book the exercises are arranged in accordance with well-known principles of anatomy, physiology, and hygiene. They have been thoroughly tested in our schools, securing the happiest results. These exercises, practised habitually and energetically, cannot fail to yield to youth grace, agility, suppleness, a ready hand, as well as robust health, solid strength, and power of endurance. Almost any school-room or parlor will suffice for the exercises. For those who wish to use the piano to enliven the exercises, there are several pieces of music prepared by the best masters.

The book is profusely and richly illustrated from original designs. It is printed on superior tinted paper, and is bound in the best style. A reviewer in the *Daily Times* speaks in the following terms of this book: "This is the most elaborate and satisfactory attempt yet made to apply practically to educational purposes the great truths of physiology, relating to physical culture and training. The work has evidently been prepared by one who is conscious of the requirements of the learner, and has studied the most effectual way of meeting and supplying them. To those in authority, whose influence would be effectual in promoting the circulation of this book, it becomes a positive duty so to do by every means in their power. All who have the physical welfare of the human race at heart, and understand how powerless the intellect is to contend against the burden of a feeble and emaciated frame, are equally interested in its teachings, and answerable, each in his own sphere, however small it be, for the consequences of neglecting them."

Benjamin Silliman, M. D., LL.D., was born at Trumbull, Connecticut, August 8, 1779. For nearly three-fourths of a century his name appeared upon the catalogues of Yale College. In 1792 he entered it as a student; in 1804 he became Professor of Chemistry and Natural History, and retained this position until 1853, when, having been relieved at his own request, he was appointed Professor *Emeritus*. To his

energy, Yale, no doubt, in great measure, owes its success. His life is not that of an individual merely; it is the history of a great university, and indirectly a picture of the period. The publication of his biography,* therefore, requires no apology: it is a necessary appendix to the current history of our nation.

As a teacher, Professor Silliman was pre-eminent. As a public lecturer, he had unexampled success. He awakened a love of science in all with whom he met. His books of travel were fascinating to both young and old, and, being among the first American works on Europe, were received with much favor in England. Although his life was devoted to science, Dr. Silliman made few original investigations. In his earlier days he began some important researches, but his energies were necessary elsewhere. His great reputation among scientific men resulted chiefly from his connection with the "American Journal of Science," which he established in 1818, and always maintained at his own pecuniary risk. It seldom was a source of profit, more frequently was a serious financial burden. Professor Silliman's private life was that of a consistent Christian man; his heart was ever open, and he was a determined defender of the oppressed. He opposed the slave-power with great vehemence, and during the troubles in Kansas was the subject of much personal defamation, even in the Congressional halls.

Professor Fisher has performed his work, as biographer, well. The greater portion of the narrative consists of an autobiography, written, not for publication, but for the information of the family. It is, consequently, the more valuable, as the facts are given in a simple colloquial style, which seems to open up the whole character of the author. Extracts from Dr. Silliman's diary are produced, and numerous letters are added, yet so as not to break the narrative. The correspondence is voluminous, but Professor Fisher's selections are evidently judicious. The appendix contains several letters of great historical importance, from Washington, Governor Trumbull, and others, none of which had been previously published.

(*) *LIFE OF BENJAMIN SILLIMAN, M. D., LL. D., Late Professor of Chemistry, Mineralogy, and Geology, in Yale College.* By GEO. F. FISHER, Professor in Yale College. New York: Chas. Scribner & Co. Two vols. 8vo, pp. 407-408. \$4.00.

Dean Alford's "Plea" can hardly be called a scientific treatise. It is of more value as an amusing collection of grammatical anecdotes, if we may so speak, than as a source of useful information. Some ambitious grammarians in our country will be highly gratified, and, doubtless, equally astonished to find their crudities indorsed by one in so high a station. The Dean is heartily in favor of "It is me;" "He is as good as me" is quite proper; and "I am better than him" is the very acme of pure English. In defiance of every respectable grammarian, he thinks the double comparative "lesser" quite elegant. The Dean is evidently a castaway in grammar, and may be quoted as authority for a large number of vulgarisms. His work has given rise to much discussion. Among the opposition, Mr. Moon* has taken up a heavy cudgel, and his letters upon the Dean's English are in the highest degree pithy and entertaining. He shows the work of Dr. Alford to be inaccurate both in matter and manner, compelling him to shirk direct issues and to defend himself by arguments unworthy of a village debating-club. Altogether, these little books form the most interesting grammatical discussion which has been made public in many years. They are written in an easy style, and each contains much matter which will be found suggestive.

The latest addition to our Shakespearean literature is the testimony* of a physician to the wonderful extent and accuracy of the great poet's knowledge of psychology, and the truthfulness of his delineations of insanity and imbecility. Dr. Kellogg's position and duties have brought him in contact with almost every condition of mental weakness and aberration, and he has studied Shakespeare in the light of the experience thus gained. His style is pleasing, and his analysis of Shakespeare's characters critical and appreciative. His positions are well sustained by apt quotations, and his book will afford profitable entertainment to all who may read it.

In preparing the "Student's Practical Chemistry"¹⁰ the authors have succeeded in

packing a great amount of information in a small space. No book of the kind which we have seen can at all compare with it in conciseness of statement. For this reason we doubt its value to beginners, for to them the subject must be presented in an attractive manner; to the well-informed student, and to the instructor, the work will be of real utility as a book of reference.

The propriety of an introductory treatise upon Chemical Physics is doubtful. It would be better to incorporate all necessary information on this topic in the chemistry proper, as has been done by Brande and Taylor. The treatise in the "Practical Chemistry" is, however, in advance of most other text-books. The authors have adopted the doctrine of conservation and correlation of forces, and, as far as possible, have introduced the new phraseology. The explanations of polarized light and spectrum analysis are superior; the latter is illustrated by a chromo-lithographic plate, showing the spectra of various metals.

In Part II. we note that three metals, yttrium, erbium, and terbium, are recognized as existing in gadolinite. The existence of the latter two is doubtful. Popp maintains that yttrium alone is to be found; more recently Bahr and Bunsen have determined that terbium, at least, should be stricken from the list of elements. To be accurate, the authors should have made some reference to Popp's investigations, which were published before their work was issued. We perceive, also, that the new metals are placed together under "metals of the earths." This is certainly inaccurate, for though the proper position of thallium and indium is an open question, there can be no doubt respecting cesium and rubidium, which are undeniably metals of the alkalis, and should therefore be classed with K., Na., Li., and Am. The appendix contains a number of useful tables, some of which are not to be found in other elementary works. The book is well printed and bound, and the illustrations, which are very numerous, are much better than those ordinarily given in similar works.

(9) SHAKESPEARE'S DELINEATIONS OF INSANITY, IMBECILITY, AND SUICIDE. By A. O. KELLOGG, M. D., Assistant Physician, State Lunatic Asylum, Utica, N. Y. New York: Hurd & Houghton. 12mo, pp. 204.

(7) A PLEA FOR THE QUEEN'S ENGLISH. By HENRY ALFORD, D. D., Dean of Canterbury. Tenth Thousand. New York: Alexander Strahan. 16mo. \$1.75.

(8) THE DEAN'S ENGLISH. By WASHINGTON MOON, Fellow R. S. of Literature. Fourth Edition. New York: The Same. 16mo, pp. 311. \$1.75.

(10) THE STUDENT'S PRACTICAL CHEMISTRY. By H. MORTON, A. M., & A. R. LEEDS, A. M. Philadelphia: J. B. Lippincott. 12mo. \$2.00.